

ASOS MODIFICATION NOTE 28 (for Electronics Technicians)

Engineering Division

W/OSO321:AJW

SUBJECT	:	Installation of Video Display Unit
PURPOSE	:	Addition of the Video Display Unit (VDU) at Small Airports.
EQUIPMENT AFFECTED	:	ASOS
PARTS REQUIRED	:	1 ea Filter 1A9J22 1 ea Video Display Unit 1 ea RS232 cable
MOD PROCUREMENT	:	VDU, External cable, external modems, adapters and null cables provided by local airport. Internal modems will be provided by NWS. Contact Bobby McCormick (301) 713-1835
SPECIAL TOOLS REQUIRED	:	None
TIME REQUIRED	:	1 hour
EFFECT ON OTHER INSTRUCTIONS	:	None.
AUTHORIZATION	:	Agreement for Connection to an Automated Surface Observing System (ASOS) at Federal Aviation Administration (FAA) - Sponsored Expansion Sites and Request for Change S00669 (NWS3615)
VERIFICATION STATEMENT	:	This modification was successfully tested for operational integrity at NWSTC

GENERAL:

This modification note provides instructions to install the Video Display Unit (VDU) at small airports. All material and parts external to the ACU cabinet will be provided by the local airport requesting a display. Only unused ports on the SIO board are to be used for the VDU installation. The technician will not reassign any existing dedicated factory assigned devices.

The cable run for this modification is not to exceed 100 feet in length. If an airport has a requirement for a VDU installation over the 100 foot length, the airport authority will have to provide modems, cables and a dedicated or leased telephone line.

BEFORE BEGINNING PROCEDURE

1. Call the AOMC at 1-800-242-8194. Inform the person who answers the phone at which office you will be completing Modification Note 28. Confirm that AOMC will provide access to the site-specific data base.
2. **Commissioned Sites Only:** Do **not** start during bad weather, precipitation, instrument flight rule (IFR) conditions, or if any of those conditions is expected within 2 hours.
3. Log on as TECH, turn off all report processing, reporting will stop here. Perform the modification MOD 28.

PROCEDURE

VDU Installation at an ASOS Site.

Equipment needed:

1. VDU terminal (provided by the airport authority if required)
2. Null Modem or Null Modem Cable (provided by the airport authority if required)
3. RS-232 Cable to run from the ACU to the VDU (Only 2 wires needed Signal Ground and Transmit Data from ACU) (provided by the airport authority if required).

Installation:

Log on the ASOS using the laptop computer and check the SIO port before installation of the VDU.

1. Access the REVIEW-SITE-CONFIG-COMMS page and determine if a port is available on SIO board #2 or higher. If no port is available, an SIO board must be installed.

NOTE:

If a board must be installed, turn the ACU power OFF. Install the board in the next available SIO slot in the VME card rack using ESD precautions. Turn power ON and go to the REVIEW-SITE-CONFIG-HARDWARE configuration page. Configure the additional SIO board.

2. Connect the VDU to the spare SIO port through the 1A9J28 I/O panel on the back of the ACU. The extra 25 pin RS-232 connectors inside the ACU are labeled with the SIO board and port number. When installing a VDU greater than 100 feet away from the ACU, the spare SIO port is connected to an internal modem. The modem output (phone side) should be connected to the next available 2440 modem I/O panel phone port (1A9J12, J13, J14 or J15).
3. It may be necessary to install a surge suppressor jack on the inside of the A9 I/O panel. Connect the internal wire bundle from the SIO port, to the I/O panel. Connect the external cable from the I/O panel to the VDU. If required, order S100-1A9J22 for 1A9J28 and S100-1A9J1 for 1A9J12 from NLSC.
4. Plug the terminal into AC power and configure the terminal. Use Attachment A, VDU Initialization, as a guide to set up terminal parameters. The monitor that the airport manager provides may not be the typical unit used on ASOS. Use the laptop computer to configure the VDU. Log on OID 1 as technician.
5. Go to the REVIEW-SITE-CONFIG-COMMS configuration page. Configure the SIO port selected for the VDU terminal performed. Set the baud rate at 2400, hardware, modem, and stop bits.
6. Verify that the VDU is displaying the 1 minute screen. This completes the installation.

NOTE:

If a remote VDU is required then two modems and a dedicated or leased phone line must be used between the ACU and the VDU terminal. Configuration for the modems can be found in the ASOS

S100 maintenance manual. One change in this procedure however must be noted, one modem is set to the answer mode and the other must be set to the originate mode for them to operate properly, it does not matter which is which.

Reporting Modification:

Target date for completing this modification is 90 days after request from airport manager. Report completed modification on WS Form A-26, Engineering Management Reporting System Maintenance Record, according to instructions in EHB-4, Part 2, Appendix F, using reporting code APER. Also, record the modification number in block 17 (a) as 28. Record the ASN and serial number of the VDU in block 15. (See example for a completed sample of WS Form A-26).

Attachment

Acting Chief, Engineering Division

W/OSO321:AJW:713-1834:11/1/95:rev.11/6/95:11/9/95:sol:redone 11/13/95:rz:WPWIN6.1 Files:
AMOD28.H11, disk HB11G
Spellchecked sol 11/1/95

ATTACHMENT A
Video Display Unit (VDU) Initialization

THIS IS ONLY A GUIDE

1. Connect the Operator Interface Device (OID) keyboard to the VDU (underneath, near front, lower left corner).
2. Apply power to the VDU.
3. Press function key F3 to enter the setup mode. The VDU will display the General Setup Page 1. If this action fails to display the General Setup page press the Control and F20 keys simultaneously to display the General Setup Page. If you still do not have the General Setup Page the VDU is probably defective.
4. Verify Firmware Version: 28 MAR 1991 Ver. 2.07

NOTE

In lower right corner of screen the Setup Directory will be displayed. Function keys F1 through F9 are used to display different Setup Pages.

FUNCTION KEY	PAGE
F1	General Setup
F2	Communication Setup
F3	Display Setup
F4	Keyboard Setup
F5	ANSI Setup
F6	Function Key Setup
F7	Tabs Setup
F8	Answer back Setup
F9	Exit

Other available commands in the Setup Mode are:

D Resets terminal configuration to the factory default
E Exit Setup Mode
H Help
S Saves all current settings in non-volatile memory

5. General Setup Page F1

Emulation	VT220-7	Auto Page	Off
Enhancements	Off	Warning Bell	On
Virtual terminal	Off	Margin Bell	Off
Scroll Style	Jump	Bell Sound	1
Auto Scroll	On	Block Terminator	US\CR
Auto Wrap	On	Send ACK	Off

EHB-11
Issuance 95-

	Received CR	CR	Monitor Mode	Off
6.	Communication Setup F2			
	Main Baud	9600	Aux Baud	9600
	Main Data-parity	8/None	Aux Data/parity	8/None
	Main Stop Bits	1	Aux Stop Bits	1
	Ignore 8th Bit	Off	Aux Rcv Hndsk	XON/XOFF
	Main Rcv Hndsk	XON/XOFF	Aux Xmt Hndsk	None
	Main Xmt Hndsk	None	Aux Port	RS232
	Comm Mode	Full Duplex	Aux Interface	RS232
	Disconnect	2 Sec	Printer	Parallel
7.	Display Setup F3			
	Columns	80	Background	Dark
	80/132 Clear	On	Attributes	Char
	Lines	24	Wprt Intensity	Dim
	Pages	1xLines	Wprt Reverse	Off
*	Status Line	Off	Wprt Underline	Off
	Cursor Style	Blink Block	Refresh Rate	60 Hz
*	Cursor	Off	Pound Char	US
	Screen Saver	15 Min	Auto Font Load	On
*= Not Factory Default Setting				
8.	Keyboard Setup F4			
	Key Click	On	Compose Key	Funct
	Key Repeat	On	Break	250 ms
	Key Lock	Caps	Xmt Limit	None
	Return Key	CR	Fkey Xmt Limit	Notice
	Enter Key	CR	Key Code	ASCII
	Erase Key	DEL/BS	Language	US
9.	ANSI Setup F5			
	Fkey Lock	Off	Print	National
	Feature Lock	Off	Send	All
	Key Pad	Numeric	Send Area	Screen
	Cursor Keys	Normal	Print Area	Screen
	Xfer Term	EOS	Send Term	None
	Char Mode	Multinational	Print Term	None
	Keys	Typewriter	Print Mode	Normal
	VT100 ID	VT100	Auto Answer back	Off

10. Function Key Setup F6
 None
11. Tabs Setup F7
 None
12. Answer back Setup F8
 None
13. Press Function Key FI
14. Save Configuration, press S
15. Exit Setup Mode, press F9
16. Disconnect power from VDU
17. Disconnect keyboard from VDU